

Exhibit 2

Civil Investigative Demand—Documentary Material and Written Interrogatories

United States Department of Justice

Antitrust Division
Washington, DC 20530

To: Alphabet, Inc.
1600 Amphitheatre Parkway
Mountain View, CA 94043

Civil Investigative
Demand Number: -30120

This civil investigative demand is issued pursuant to the Antitrust Civil Process Act, 15 U.S.C. §§ 1311-1314, in the course of an antitrust investigation to determine whether there is, has been, or may be a violation of Section 2 of the Sherman Act, 15 U.S.C. § 2 by conduct, activities, or proposed action of the following nature: Monopolization, Attempted Monopolization, and/or Monopoly Maintenance of Online Search, Digital Advertising, or related products and services.

You are required by this demand to produce all documentary material described in the attached schedule that is in your possession, custody, or control, and to make it available at your address indicated above for inspection and copying or reproduction by a custodian named below. You are also required to answer the interrogatories on the attached schedule. Each interrogatory must be answered separately and fully in writing, unless it is objected to, in which event the reasons for the objection must be stated in lieu of an answer. Such production of documents and answers to interrogatories shall occur on the 6th day of November, 2019 at 5:00 p.m.

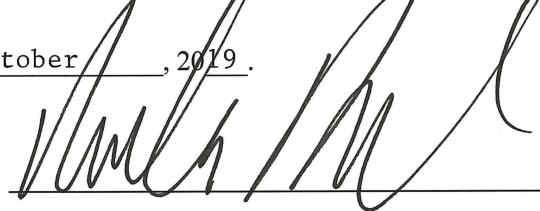
The production of documentary material and the interrogatory answers in response to this demand must be made under a sworn certificate, in the form printed on the reverse side of this demand, by the person to whom this demand is directed or, if not a natural person, by a person or persons having knowledge of the facts and circumstances relating to such production and/or responsible for answering each interrogatory.

For the purposes of this investigation, the following are designated as the custodian and deputy custodian(s) to whom the documentary material shall be made available and the interrogatory answers shall be submitted: Aaron Hoag, Chief (custodian) and Ryan Struve, Attorney (deputy custodian), U.S. Dept. of Justice, Antitrust Division, Technology and Financial Services Section, 450 Fifth Street NW, Suite 7100, Washington, DC 20530.

Inquiries concerning compliance should be directed to Ryan Struve at 202-514-4890.

Your attention is directed to 18 U.S.C. § 1505, printed in full on the reverse side of this demand, which makes obstruction of this investigation a criminal offense.

Issued in Washington, D.C., this 7th day of October, 2019.



Assistant Attorney General

Civil Investigative Demand—Documentary Material and Written Interrogatories

18 U.S.C. § 1505. Obstruction of proceedings before departments, agencies, and committees

Whoever, with intent to avoid, evade, prevent, or obstruct compliance, in whole or in part, with any civil investigative demand duly and properly made under the Antitrust Civil Process Act, willfully withholds, misrepresents, removes from any place, conceals, covers up, destroys, mutilates, alters, or by other means falsifies any documentary material, answers to written interrogatories, or oral testimony, which is the subject of such demand; or attempts to do so or solicits another to do so; or

Whoever corruptly, or by threats or force, or by any threatening letter or communication influences, obstructs, or impedes or endeavors to influence, obstruct, or impede the due and proper administration of the law under which any pending proceeding is being had before any department or agency of the United States, or the due and proper exercise of the power of inquiry under which any inquiry or investigation is being had by either House, or any committee of either House or any joint committee of the Congress -

Shall be fined under this title, imprisoned not more than 5 years or, if the offense involves international or domestic terrorism (as defined in section 2331), imprisoned not more than 8 years, or both.

Form of Certificate of Compliance*

I/We have read the provisions of 18 U.S.C. § 1505 and have knowledge of the facts and circumstances relating to the production of the documentary material and have responsibility for answering the interrogatories propounded in Civil Investigative Demand No. _____. I/We do hereby certify that all documentary material and all information required by Civil Investigative Demand No. _____ which is in the possession, custody, control, or knowledge of the person to whom the demand is directed has been submitted to a custodian named therein.

If any documentary material otherwise responsive to this demand has been withheld or any interrogatory in the demand has not been fully answered, the objection to such demand and the reasons for the objection have been stated in lieu of production or an answer.

Signature _____

Title _____

Sworn to before me this _____ day of
_____, 20____.

Notary Public

*In the event that more than one person is responsible for producing the documents and answering the interrogatories, the certificate shall identify the documents and interrogatories for which each certifying individual was responsible. In place of a sworn statement, the above certificate of compliance may be supported by an unsworn declaration as provided by 28 U.S.C. § 1746.

**CIVIL INVESTIGATIVE DEMAND FOR
DOCUMENTS AND INFORMATION
ISSUED TO ALPHABET, INC.**

Unless otherwise indicated or modified by the Department of Justice, each specification of this Demand requires a complete search of the Company. In the Department's experience, modifications to this Demand may reduce the burden of searching for responsive documents and information in a way that is consistent with the Department's needs. The Company is encouraged to propose such modifications, but all modifications must be agreed to in writing by the Department.

SPECIFICATIONS

1. Submit:
 - a. one copy of each organization chart and personnel directory for the Company as a whole and for each of the Company's facilities or divisions involved in any activity related to any Relevant Product or Service;
 - b. a list of persons most knowledgeable about the Company's electronic data systems and policies or practices regarding responsive electronically stored information, including each responsive database or data set within the Company;
 - c. a list of persons most knowledgeable about the Company's electronic data systems and policies or practices regarding responsive electronically stored information, including each database or data set responsive to Specification 2;
 - d. a description of each database or data set responsive to Specification 2, including: (1) its software platform; (2) its type (e.g., flat, relational, or enterprise); (3) the sources (e.g., other databases or individuals) used to populate the database; (4) a Data Dictionary; (5) for relational or enterprise databases, documents specifying the relationships among tables (e.g., an entity relationship diagram); (6) any query forms; and (7) any regularly prepared reports produced from that database; and
 - e. for each Collaborative Work Environment formerly or currently maintained by the Company that contains responsive documents or information, a description of the environment and a list of the employees who have access to the environment.
2. Submit each database or data set used or maintained by the Company since 2007 related to each Relevant Product or Service that contains information related to the Company's:
 - a. products or services;
 - b. prices, revenues, costs, or margins;
 - c. sales;
 - d. consumer switching and multi-homing;

- e. search queries, search results, and click-through rates;
 - f. bids, asks, and transactions on advertising platforms;
 - g. customers or customer relationships; or
 - h. competitors.
3. List separately for each subpart below each federal judicial district in which the Company:
 - a. has an agent to receive service of process (include each agent's name, current business and home addresses, and telephone numbers);
 - b. has an office or a facility; for each office or facility, list the address and the individual in charge (with his or her title), and if the office or facility is in the District of Columbia, indicate whether the office or facility's sole purpose is to contact federal governmental agencies; and
 - c. inhabits, is found, or transacts business, and is incorporated or licensed.

The Company may respond to this specification by agreeing to personal jurisdiction and to accept service of process in all federal judicial districts.

4. Submit documents sufficient to show (and to the extent not reflected in such documents, describe) the Company's policies and practices related to (a) the retention and destruction of documents, and the retention, storage, deletion, and archiving of electronically stored information, including e-mail, and (b) the use of personal electronic devices for work purposes.
5. List the persons responsible for preparing the response to this Civil Investigative Demand and submit a copy of all instructions prepared by the Company related to the steps taken to respond to this Demand. Where oral instructions were given, list the person who gave the instructions and describe the content of the instructions and the persons to whom the instructions were given. For each specification, list the persons who assisted in the preparation of the response and list, by name and corporate title or job description, the persons whose files were searched.
6. Submit all documents related to the Company's mergers and acquisitions strategy and how that strategy affects its Internet Search or any Advertising Technology Product business including, but not limited to, any documents like those described in Items 4(c) and 4(d) in the Notification and Report Form for Certain Mergers and Acquisitions pursuant to 16 C.F.R. Appendix A to Part 803.
7. Submit all documents related to any plans of, interest in, or efforts undertaken by the Company or any other person for any acquisition, divestiture, joint venture, alliance, or merger of any kind involving the sale of any Relevant Product or Service.

8. Submit all documents related to any allegation that the Company, its employees, or any of its current or potential competitors is behaving in an anticompetitive manner, including customer and competitor complaints, Congressional inquiries, or threatened, pending, or completed lawsuits.
9. State the name and business address of each of the Company's competitors in any Relevant Product or Service.
10. List each Relevant Product or Service provided by the Company, and for each:
 - a. describe any identifying information such as brand name or catalog number, and end-uses; and
 - b. identify the business unit of the Company that provides or has provided it.
11. For each Relevant Product or Service state, separately for each month from January of 2015 to the present, state the revenue the Company received and the sources of that revenue, including, but not limited to revenue derived from advertisements, distribution agreements, and syndication agreements.
12. For each Relevant Product or Service state, and submit all documents related to:
 - a. the date that development of the product or service began, and the date that the product or service was first provided or will be provided;
 - b. the total development costs incurred by the Company to date, and the total costs projected for any continuing development of the product or service (including any planned upgrades or expansions of the product or service);
 - c. the total person-years (or person-months) the Company has expended to date and the total person-years (or person-months) projected for any continuing development of the product or service (including any planned upgrades or expansions of the product or service); and
 - d. the total sunk costs incurred to date, as well as all sunk costs projected for any continuing development of the product or service (including any planned upgrades or expansions of the product or service).
13. Submit all documents related to the Company's or any other person's plans related to any Relevant Product or Service, including, but not limited to:
 - a. business plans;
 - b. short-term and long-term strategies and objectives;
 - c. budgets and financial projections;

- d. entry, expansion, or retrenchment plans;
- e. research and development efforts;
- f. plans to reduce costs, increase quality, expand inventory, increase scale, improve products or services, introduce new products or services, or otherwise become more competitive; and
- g. presentations to management committees, executive committees, and boards of directors.

For regularly prepared budgets and financial projections, the Company need only submit one copy of final year-end documents and cumulative year-to-date documents for the current year.

- 14. Submit all documents created or received by the Company related to the Company's or any other person's transaction prices, price lists, pricing plans, pricing policies, pricing forecasts, pricing strategies, pricing analyses, and pricing decisions related to any Relevant Product or Service.
- 15. State the name and address of each person that has entered or attempted to enter into, or exited from, the provision of each Relevant Product or Service or sale of each Relevant Product or Service from 2006 to the present. For each such person, identify the Relevant Product or Service it sells or sold, and the date of the entry into or exit from the market.
- 16. For each Relevant Product or Service, list any likely new entrants into the sale of the Relevant Product or Service.
- 17. Submit all documents related to any Relevant Product or Service that use any of the following terms: moat, wall, pricing power, market power, monopoly, monopsony, competitive edge, efficient scale, entry barriers, entrench, dominant, market leader, market position, or network effects.
- 18. Submit all documents related to the protection or preservation of the market shares of any of the Company's Relevant Products or Services by modifying existing products or services, or by creating or developing other products or services.
- 19. Submit all documents related to the Company's plans to develop products or services that support, interoperate, or rely on any of the Company's Relevant Products or Services.
- 20. Submit all documents related to any economic analyses performed by the Company related to any Relevant Product or Service.
- 21. Submit all documents or data related to competition in any Relevant Product or Service, including, but not limited to:

- a. documents related to the Company's past, current, and contemplated (whether consummated or not) Search Syndication contracts or agreements, and any policies related to any such contract or agreements;
- b. documents related to the Company's efforts to be included as a default or optional Internet Search provider for any Web Browser or Mobile Operating System;
- c. documents related to the Company's efforts to create an index for its search engine;
- d. documents related to the Company's efforts to produce competitive Organic Search Results for the Internet Search market;
- e. documents related to the sales, market share, or competitive position of the Company or any of its competitors;
- f. documents related to the relative strength or weakness of companies providing any Relevant Product or Service;
- g. documents related to the relative quality of the products or services offered by competitors, or features thereof, including, but not limited to technology, performance, privacy and security, user experience, customizability, inventory, publishers, suppliers, data, and customer service;
- h. documents related to supply and demand conditions;
- i. documents related to comparisons or analysis of any Relevant Product or Service;
- j. data showing the propensity of users of the Company's products and services to use default applications, including any default Web Browser, Search Engine, or Mobile Wireless Application;
- k. data showing how often users of the Company's products and services multi-home or switch from one Web Browser, Search Engine, or Mobile Operating System to another, and what they switch to and away from (or multi-home with);
- l. data on bids by competing Search Engines to be pre-installed or set as default on any website, Web Browser, or Mobile Device; and
- m. documents related to any actual or potential effect on the supply, demand, cost, scale, available inventory, or price of any Relevant Product or Service as a result of competition from any competing product or service, or any possible substitute product or service.

22. Submit all contracts related to any Relevant Product or Service that:

- a. reference any competitor of the Company;
- b. have any exclusive terms or most-favored nations (MFN) terms;

- c. relate to more than one product or service, or to a bundle of products or services, or that reference or condition the purchase or use of one product or service with respect to the purchase or use of another product or service;
- d. prevent, prohibit, or affect the ability of any customer from working with or using the products or services of any competitor;
- e. prevent, prohibit, or affect the ability of any competitors from crawling the webpages of any website;
- f. permit or mandate the restoration of any Relevant Product or Service as the default product or service; and
- g. prohibit competitors from using any data collected and maintained by the Company.

23. Submit all documents related to the Company's support for, justification of, or any complaints regarding Accelerated Mobile Pages.

24. Submit all documents related to the Company's analysis of and decisions made about the design or layout of, and placement of features on, Google's Search Engine Results Page.

25. Submit all documents related to the Company's sale, commercialization, or other monetization of user data acquired or derived from any Relevant Product or Service.

26. Submit all documents related to the Company's decisions, plans, or policies restricting the ability of third parties to use Google Maps with non-Google products or services.

27. Submit all documents related to any contract or other agreement, or any potential agreement, between the Company and any (a) Mobile Device manufacturers that produce devices to be sold in the United States or (b) mobile network operators in the United States.

28. Submit all documents created since 2007 related to the Company's Android business unit, including, but not limited to documents relating to:

- a. prices, terms of sale, pricing plans, pricing strategies, or profitability;
- b. business plans or short-term or long-term strategies or objectives;
- c. annual budgets and financial projections;
- d. procedures for release of software updates, including whether updates reset default options;
- e. expansion or retrenchment plans;
- f. research and development efforts;

- g. acceptance or rejection of applications that compete with the Company's products in any Relevant Product or Service; and
- h. acceptance or rejection of advertising for apps that compete with the Company's products in any Relevant Product or Service.

29. Submit all documents related to the formation, membership, and purpose of any organization related to the Android Mobile Operating System, including, but not limited to the Open Handset Alliance.

30. Submit all documents regarding any benefits to the Company's other products and services, including, but not limited to its Search and Advertising businesses, from the Company's efforts to develop, maintain, or enhance any Mobile Operating System.

31. Submit all documents related to advertising on webpages using Accelerated Mobile Pages.

32. Submit all documents related to acquisitions the Company made or is considering to expand, augment, or support the Android Mobile Operating System.

33. Submit documents sufficient to show what data the Company collects, plans to collect, has considered collecting, or can collect on mobile users, including, but not limited to data from use of the Company's Mobile Wireless Applications or through the Android Mobile Operating System.

34. Submit all documents related to contracts or other agreements, past, present, or current, with Android application developers, including, but not limited to terms of service, the Company's review of application updates, and fees the Company charges for distribution or in-app purchases.

35. Submit all documents related to competition between the Company's Android Mobile Operating System and other Mobile Operating Systems, including, but not limited to other Android Mobile Operating Systems that are compatible with the Company's Mobile Wireless Applications (i.e., compatible Android forks) and Android Mobile Operating Systems that are not compatible with the Company's Mobile Wireless Applications (i.e., incompatible Android forks).

36. Submit all documents related to competition between the Google Play Store and other Mobile Wireless Application stores or individual applications, including, but not limited to documents related to the costs to developers of developing and distributing applications.

37. Submit all documents related to the decision to make AV1 video codec the default in Android Mobile Devices, including, but not limited to the decision to require royalty-free grant backs of intellectual property rights as a condition of using AV1 on Android devices.

38. Submit, for each of the Company's Web Browsers, all documents related to the Company's procedure for release of software updates, including whether updates reset default options.
39. Submit all documents created since 2006 discussing the Company's or any other person's plans related to Web Browsers, including, but not limited to:
 - a. business plans;
 - b. short-term and long-term strategies and objectives;
 - c. entry, expansion, or retrenchment plans; and
 - d. research and development efforts.
40. Submit all documents related to any benefits to the Company's other products and services from the Company's efforts to develop, maintain, or enhance any Web Browser or Web Browser code, including, but not limited to benefits to the Company's Search and Advertising businesses.
41. Submit all documents related to the Company's collection and use of user data from or through any Web Browser for purposes of sale, commercialization, or advertising, or to improve any of the Company's products or services.
42. Submit all documents related to the performance, display, compatibility, or interoperability of the Company's products and services in competing Web Browsers, including, but not limited to the Company's websites, applications, and technology.
43. Submit all documents related to the distribution of any Web Browser (either standalone or as part of a bundle) on any desktop or laptop computer or mobile device.
44. Submit all documents related to any constraints imposed by any Web Browser on user access to, performance of, or display of any website, including the Company's websites.
45. Submit all documents related to Content-Blocking Software, extensions, applications, or other similar technology for Web Browsers, including, but not limited to:
 - a. the Company's development of its own Content-Blocking Software;
 - b. the effects on Content-Blocking Software of updates or changes, such as Manifest v3, to the Company's Web Browsers;
 - c. the effects of any Content-Blocking Software on user behavior, including, but not limited to, how a user interacts with features on a webpage;
 - d. the effects of any Content-Blocking Software on revenues from the Company's Advertising Technology Products; and

- e. communications with other Content-Blocking Software companies.

46. Submit all documents related to cookie management in Web Browsers, including, but not limited to developments, updates, or changes to the Company's cookie management policies; the Privacy Sandbox; and comparisons to cookie management in competing Web Browsers.

47. Submit all documents related to the Company's past or future implementation of DNS-over-HTTPS or DNS-over-TLS, including, but not limited to:

- a. the Company's participation in the Internet Engineering Task Force's development of the DNS-over-HTTPS and DNS-over-TLS standards;
- b. any communication between the Company and any other person regarding the implementation of DNS-over-HTTPS or DNS-over-TLS;
- c. the Company's business plans or short-term or long-term strategies or objectives with regard to DNS-over-HTTPS or DNS-over-TLS; and
- d. the Company's business plans or short-term or long-term strategies or objectives regarding any data collected after implementation of DNS-over-HTTPS or DNS-over-TLS.

48. Submit all documents related to the licensing, sharing, distribution, maintenance, and updating of Application Programming Interfaces for the Company's Web Browsers, including, but not limited to:

- a. all documents related to digital rights management encryption services for Web Browsers such as Widevine, FairPlay, PlayReady, or similar technology; and
- b. all documents related to the interoperability of Google Hangouts, including screen sharing functions, with competing Web Browsers.

49. Submit all documents related to any action by the Company to modify the results of its Organic Search Results, including, but not limited to:

- a. promotion of the Company's owned websites and services above the placement determined by the Google search algorithm;
- b. demotion of other websites and services below the placement determined by the Google search algorithm;
- c. any decision to modify or discontinue creating a PageRank score for the Company's owned websites; and
- d. signaling to users that a result is not an Organic Search Result.

50. Submit all agreements with Web Browsers regarding the optional or default Search Engine used by that Web Browser, all documents related to those agreements, and all communications with Web Browsers that have agreements with the Company.
51. Submit all documents related to the Company's Search business, including, but not limited to:
 - a. business plans or short-term or long-term strategies or objectives;
 - b. annual budgets and financial projections;
 - c. documents related to decision-making regarding the design and layout of the Search Engine Results Page, including, but not limited to:
 - i. the number of advertisements shown and the portion of screen size occupied by the advertisements;
 - ii. any decision by the Company to modify how search results are displayed, including, but not limited to, design decisions about whether to include a feature or service (whether Google-owned or otherwise) at or near the top of the page; and
 - iii. whether to include or to modify the placement, size, or design of a featured snippet, answer box, map, carousel, or other infographic; and
 - d. documents related to research and development efforts.
52. Submit all documents since 2007 related to the Company's development of Universal Search, including, but not limited to:
 - a. business plans or short-term or long-term strategies or objectives;
 - b. annual budgets and financial projections; and
 - c. documents related to research and development efforts.
53. Submit all documents related to competition between Google's search engine (including any portion of the Search Engine Results Page) and other Vertical Search companies.
54. Provide the name and address of and a contact person for all of the Company's competitors for Advertising Technology Products.
55. For each of the Company's Advertising Technology Products, submit all documents related to the Company's:
 - a. prices, terms of sale, pricing plans, pricing strategies, or profitability;

- b. business plans or short-term or long-term strategies or objectives;
- c. annual budgets and financial projections;
- d. expansion or retrenchment plans; and
- e. research and development efforts.

56. For each year since 2007, separately for each Advertising Technology Product sold by the Company, identify and describe all revenue sharing and fees associated with the service.

57. Submit all documents related to Google's development, introduction, and management of:

- a. Real-Time Bidding;
- b. Dynamic Allocation;
- c. Enhanced Dynamic Allocation;
- d. Exchange Bidding Dynamic Allocation;
- e. Unified Pricing; and
- f. each other material change made to the Company's Advertising Technology Products since 2011.

58. Submit all documents related to the Company's integrations of third-party Advertising Technology Products with its own Advertising Technology Products, including all contracts with third-party providers of Advertising Technology Products.

59. Submit all documents related to the importability of information and data to, or exportability of information and data from, the Company's Advertising Technology Products by customers.

60. Submit all documents or analysis estimating how many customers of the Company's Advertising Technology Products also use non-Google advertising products.

61. Submit all documents related to Header Bidding, the PreBid Standard, and propriety implementations of Header Bidding.

62. For each of the Company's Advertising Technology Products, state the name and address of and a contact person for its top 50 customers by volume and revenue and submit all contracts and communication with that firm related to Advertising Technology Products.

63. Submit one copy of each form contract the Company utilizes related to Advertising Technology Products.

64. Submit documents sufficient to show the Company's Privacy Policy, including:
 - a. use of personal information in the serving of advertisements, either on the Company's property or on third-party websites;
 - b. limitations on data transfers to third-party companies;
 - c. any exceptions made to the Company's Privacy Policy and the reasons for those exceptions; and
 - d. any changes made to the Company's Privacy Policy over the past ten years and the reasons for those changes.
65. Describe the Company's policies and practices related to allowing third-party Advertising Technology Products to integrate with the Company's owned properties, including, but not limited to YouTube (i.e., to buy or to serve ads on YouTube), including:
 - a. the Company's general policies and any exceptions to the general policies in existence in 2007;
 - b. all subsequent changes to the Company's policies, any impact on prior exceptions, and any new exceptions;
 - c. when each change occurred;
 - d. the rationale for each change; and
 - e. the impact of each change on advertising revenue generated by YouTube.
66. Submit all documents related to actual or proposed changes to the Company's policies and practices on allowing third-party ad servers or ad exchanges to integrate with the Company's owned properties, including, but not limited to YouTube (i.e., to buy or to serve ads on YouTube).

DEFINITIONS

The following definitions apply for the purposes of this Demand:

1. The terms "**the Company**," or "**Google**" mean Alphabet, Inc., its domestic and foreign parents, predecessors, divisions, subsidiaries, affiliates, partnerships and joint ventures, and all directors, officers, employees, agents, and representatives of the foregoing. The terms "parent," "subsidiary," "affiliate," and "joint venture" refer to any person in which there is partial (25 percent or more) or total ownership or control between the Company and any other person.
2. The term "**Accelerated Mobile Pages**" means the open-source library of web components and specifications that speed up page load times.

3. The term “**Advertising Technology Product**” means any technology, product, or service that facilitates the sale, purchasing, management, analytics, or optimization of advertising inventory and advertisements. Advertising Technology Product includes, but is not limited to, Google Ad Manager, Google Market Platform, Google Ad Sense, Google Ad Mob, Google Ads, and all subsidiary products, predecessor products, and like abandoned products.
4. The term “**agreement**” means any understanding, formal or informal, written or unwritten.
5. The term “**Ad Serving**” means the technology and service that places advertisements on websites.
6. The term “**Application Programming Interface**” or “**API**” means any routines, protocols, commands, rules, or specifications that a software program follows to access and make use of the services and resources provided by any software or hardware that also implements that API.
7. The term “**Collaborative Work Environment**” means a platform used to create, edit, review, approve, store, organize, share, and access documents and information by and among authorized users, potentially in diverse locations and with different devices. Even when based on a common technology platform, Collaborative Work Environments are often configured as separate and closed environments, each one of which is open to a select group of users with layered access control rules (reader vs. author vs. editor). Collaborative Work Environments include Google Drive, Microsoft Sharepoint sites, eRooms, document management systems (e.g., iManage), intranets, web content management systems (CMS) (e.g., Drupal), wikis, and blogs.
8. The term “**Content-Blocking Software**” means any software (including any Web Browser extension) that prevents a Web Browser from displaying, playing, loading, receiving, or transmitting any content, including, but not limited to webpages in whole or in part, advertisements, adult material, malware, trackers, or personal information.
9. The term “**Data Dictionary**” means documentation of the organization and structure of the databases or data sets that is sufficient to allow their reasonable use by the Department, including, for each table of information: (a) the size (number of records and overall volume); (b) a general description; (c) a list of field names; (d) a definition for each field as it is used by the Company, including the meanings of all codes that can appear as field values; (e) the format, including variable type and length, of each field; and (f) the primary key in a given table that defines a unique observation.
10. The term “**documents**” means all written, printed, or electronically stored information (“ESI”) of any kind in the possession, custody, or control of the Company, including information stored on social media accounts like Twitter or Facebook, chats, instant messages, text messages, messaging applications, and documents contained in Collaborative Work Environments and other document databases. “Documents” includes metadata, formulas, and other embedded, hidden, and bibliographic or historical data describing or relating to any document. Unless otherwise specified, “documents” excludes bills of lading, invoices in non-electronic form, purchase orders, customs declarations, and other similar

documents of a purely transactional nature; architectural plans and engineering blueprints; and documents solely relating to environmental, tax, human resources, OSHA, or ERISA issues.

11. The term “**documents sufficient to show**” means documents sufficient to provide the Department with a true and correct disclosure of the factual matter requested.
12. The term “**Header Bidding**” refers to an advanced programmatic technique wherein publishers offer inventory to multiple ad exchanges simultaneously before making calls to their ad servers.
13. The term “**Internet Search**” means the results of an entry into a search engine that yields both paid and non-paid (also called organic) results.
14. The term “**Mobile Operating System**” means system software for a mobile wireless device (e.g., Android, iOS) that manages device hardware and supports application software.
15. The term “**Mobile Wireless Application**” means a computer program that enables one or more functions on a mobile wireless device running a Mobile Operating System.
16. The term “**Mobile Device**” means a device (e.g., phone, tablet, smartwatch) suitable for use with any telecommunications service using radio transmission between mobile or fixed stations that allows customers to conduct telephone calls or data sessions wirelessly when traveling.
17. The term “**Organic Search Results**” means non-advertisement results from an entry into a search engine.
18. The term “**person**” includes the Company and means any natural person, corporate entity, partnership, association, joint venture, government entity, or trust. The term “**person**” includes the Company and means any natural person, corporate entity, partnership, association, joint venture, government entity, or trust.
19. The term “**plans**” includes preliminary proposals, recommendations, or considerations, whether finalized or adopted.
20. The term “**PreBid Standard**” refers to a free and open source suite of software products designed to enable publishers to implement Header Bidding on their websites and from within their apps.
21. The term “**Relevant Product or Service**” means, *and submit information separately for each product or service offered by the Company within one or more of the following categories:*
 - a. Advertising Technology Products;
 - b. Mobile Operating Systems;
 - c. Web Browsers;

- d. Internet Search;
- e. YouTube;
- f. Google Maps; and
- g. G Suite.

22. The term “**sales**” means net sales, *i.e.*, total sales after deducting discounts, returns, allowances, and excise taxes. “Sales” includes sales of the relevant product whether manufactured by the Company itself or purchased from sources outside the Company and resold by the Company.

23. The term “**Search Engine Results Page**” means the page (or pages) displayed by search engines in response to a query.

24. The term “**Search Syndication**” means the provision of a search engine’s services to an approved third party.

25. The term “**Vertical Search**” means a search on a specific topic area or a specific segment of an overall search.

26. The term “**Web Brower**” means any software that allows the user of a desktop or laptop computer, mobile device, tablet, or similar technology to access or interact with information on the World Wide Web. The term Web Brower includes but is not limited to Chrome, Chromium, Firefox, Safari, Opera, Puffin, Dolphin, Baidu, Samsung Internet, Yandex, Cheetah, Vivaldi, Internet Explorer, Edge, Lynklet, Brave, Ghostery, UC Web, and all versions, subsidiary products, predecessor products, and like abandoned products.

INSTRUCTIONS

Timing

1. All references to year refer to calendar year. Unless otherwise specified, this Demand calls for documents, data, and other information created, altered, or received by the Company since 2014.

Production Format

2. Department representatives must approve the format and production method of any documents, data, or other information before the Company makes an electronic production in response to this Demand. Before preparing its production, the Company must contact the Department to explain what materials are available and how they are stored. This discussion must include Company personnel who are familiar with its electronically stored information and databases/data sets.

3. Before using software or technology (including search terms, predictive coding, de-duplication, or similar technologies) to identify or eliminate documents, data, or information potentially responsive to this Demand, the Company must submit a written description of the method(s) used to conduct any part of its search. In addition, for any process that relies on search terms to identify or eliminate documents, the Company must submit: (a) a list of proposed terms; (b) a tally of all the terms that appear in the collection and the frequency of each term; (c) a list of stop words and operators for the platform being used; and (d) a glossary of industry and company terminology. For any process that instead relies on predictive coding to identify or eliminate documents, you must include (a) confirmation that subject-matter experts will be reviewing the seed set and training rounds; (b) recall, precision, and confidence-level statistics (or an equivalent); and (c) a validation process that allows for Department review of statistically-significant samples of documents categorized as non-responsive documents by the algorithm.
4. If the Department agrees to narrow the scope of this Demand to a limited group of custodians, a search of each custodian's files must include files of their predecessors; files maintained by their assistants or under their control; and common or shared databases or data sources maintained by the Company that are accessible by each custodian, their predecessors, or assistants.
5. Submit responses to this Demand in a reasonably usable format as required by the Department in the letter sent in connection with the investigation of the Transaction. Documents must be complete and unredacted, except for privilege. Documents must be submitted as found and ordered in the Company's files and must not be shuffled or otherwise rearranged. The Company is encouraged to submit copies of hard-copy documents electronically (with color hard copies where necessary to interpret the document) in lieu of producing original hard-copy documents. Absent a Department request, produce electronic documents in electronic form only. Electronic productions must be free of viruses. The Department will return any infected media for replacement, which may delay the Company's date of compliance with this Demand.
6. Do not produce any Sensitive Personally Identifiable Information ("Sensitive PII") or Sensitive Health Information ("SHI") before discussing the information with the Department representatives. If any document responsive to a particular request contains Sensitive PII or SHI that is not responsive to that request, redact the unresponsive Sensitive PII or SHI before producing the document. To avoid any confusion about the reason for the redaction, produce a list of such redacted documents by document control number.

Sensitive PII includes a person's Social Security Number; or a person's name, address, or phone number in combination with one or more of their: (a) date of birth; (b) driver's license number or other state identification number, or a foreign country equivalent; (c) passport number; (d) financial account number; or (e) credit or debit card number.

Sensitive Health Information includes medical records and other individually identifiable

health information, whether on paper, in electronic form, or communicated orally. SHI relates to the past, present, or future physical or mental health or condition of an individual, the provision of health care to an individual, or the past, present, or future payment for the provision of health care to an individual.

7. Provide any index of documents prepared by any person in connection with your response to this Demand. If the index is available in electronic form, provide it in that form.
8. Data called for by this Demand must be submitted electronically in a reasonably useable compilation that will allow the Department to access the information it contains. Producing a database or data set in its entirety often does not satisfy this requirement. For the Department to be able to access and interpret data, the Company must provide, for each database, a description of each database or data set to be produced, including: (1) its software platform; (2) its type (e.g., flat, relational, or enterprise); (3) the sources (e.g., other databases or individuals) used to populate the database; (4) for relational or enterprise databases, documents specifying the relationships among tables (e.g., an entity relationship diagram); (5) any query forms; (6) any regularly prepared reports produced from that database; and (7) a Data Dictionary that includes, for each table in the database:
 - a. the name of the table;
 - b. a general description of the information contained;
 - c. the size in both number of records and megabytes;
 - d. a list of fields;
 - e. the format, including variable type and length, of each field;
 - f. a definition for each field as it is used by the Company, including the meanings of all codes that can appear as field values;
 - g. the fields that are primary keys for the purpose of identifying a unique observation;
 - h. the fields that are foreign keys for the purpose of joining tables; and
 - i. an indication of which fields are populated.

It is likely that only a subset or compilation of the contents of any particular database or data set will need to be produced. After providing the information above, counsel and knowledgeable personnel from the Company should discuss with Department representatives what constitutes a sufficient production from the database or data set in a reasonably useable format.

9. The Company must continue to preserve documents or data contained in disaster recovery systems or back-up media that may contain information responsive to this

Demand. Please contact the Division's representative to discuss your obligation to preserve back up media.

10. Produce all non-privileged portions of any responsive document (including non-privileged or redacted attachments) for which a privilege claim is asserted. Each document withheld in whole or in part from production based on a claim of privilege must be assigned a unique privilege identification number and separate fields representing the beginning and ending document control numbers and logged as follows:
 - a. Each log entry must contain, in separate fields: privilege identification number; beginning and ending document control numbers; parent document control numbers; attachments document control numbers; family range; number of pages; all authors; all addressees; all blind copy recipients; all other recipients; date of the document; an indication of whether it is redacted; the basis for the privilege claim (e.g., attorney-client privilege), including the anticipated litigation for any work-product claim and the underlying privilege claim if subject to a joint-defense or common-interest agreement; and a description of the document's subject matter sufficiently detailed to enable the Department to assess the privilege claim and the facts relied upon to support that claim.
 - b. Include a separate legend containing an alphabetical list (by last name) of each name on the privilege log, identifying titles, company affiliations, the members of any group or email list on the log (e.g., the Board of Directors) and any name variations used for the same individual.
 - c. On the log and the legend, list all attorneys acting in a legal capacity with the designation ESQ after their name (include a space before and after the "ESQ").
 - d. Produce the log and legend in electronic form that is both searchable and sortable. Upon request, the Company must submit a hard copy of the log and legend.
 - e. Department representatives will provide an exemplar and template for the log and legend upon request.
 - f. Any document created by the Company's in-house counsel or the Company's outside counsel that has not been distributed outside the Company's in-house counsel's office or the Company's outside counsel's law firm does not have to be logged. But if the document was distributed to any attorney who does not work exclusively in the Company's in-house counsel's office or who has any business responsibilities, it must be logged. Unlogged documents are subject to any preservation obligations the Company or counsel may have.
11. If the Company is unable to answer a question fully, it must supply all available information; explain why such answer is incomplete; describe the efforts made by the Company to obtain the information; and list the sources from which the complete answer may be obtained. If the information that allows for accurate answers is not available, submit best estimates and describe how the estimates were derived. Estimated data

should be followed by the notation "est." If there is no reasonable way for the Company to estimate, provide an explanation.

12. If documents, data, or other information responsive to a particular request no longer exists for reasons other than the Company's document retention policy, describe the circumstances under which it was lost or destroyed, describe the information lost, list the specifications to which it was responsive, and list persons with knowledge of such documents, data, or other information.
13. To complete this Demand, the Company must submit the certification on the reverse of the Civil Investigative Demand form, executed by the official supervising compliance with this Demand, and notarized.

Direct any questions the Company has relating to the scope or meaning of anything in this Demand or suggestions for possible modifications thereto to Ryan Struve at 202-514-4890. The response to this Demand must be addressed to the attention of Mr. Ryan Struve and delivered between 8:30 a.m. and 5:00 p.m. on any business day to 450 Fifth Street, NW, Suite 7100, Washington, DC 20001. If the Company wishes to submit its response by U.S. mail, please call Ryan Struve for mailing instructions.